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07/993,391 12/18/92 HIROKI

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LAB. L. EXAMINER

ART UNIT PAPER NUMBER

2609

5

01/04/94

DATE MAILED:

This is a communication from the examiner in charge of your application.
COMMISSIONER OF PATENTS AND TRADEMARKS

☒ This application has been examined ☐ Responsive to communication filed on _____ ☐ This action is made final.

A shortened statutory period for response to this action is set to expire three month(s), _____ days from the date of this letter.
Failure to respond within the period for response will cause the application to become abandoned. 35 U.S.C. 133

Part I THE FOLLOWING ATTACHMENT(S) ARE PART OF THIS ACTION:

- ☒ Notice of References Cited by Examiner, PTO-892.
- ☒ Notice of Draftsman's Patent Drawing Review, PTO-948.
- ☒ Notice of Art Cited by Applicant, PTO-1449.
- ☐ Notice of Informal Patent Application, PTO-152.
- ☐ Information on How to Effect Drawing Changes, PTO-1474.
- ☐

Part II SUMMARY OF ACTION

1. ☒ Claims 21-37 are pending in the application.

Of the above, claims _____ are withdrawn from consideration.

2. ☐ Claims _____ have been cancelled.

3. ☐ Claims _____ are allowed.

4. ☒ Claims 21-37 are rejected.

5. ☐ Claims _____ are objected to.

6. ☐ Claims _____ are subject to restriction or election requirement.

7. ☐ This application has been filed with Informal drawings under 37 C.F.R. 1.85 which are acceptable for examination purposes.

8. ☐ Formal drawings are required in response to this Office action.

9. ☐ The corrected or substitute drawings have been received on _____. Under 37 C.F.R. 1.84 these drawings are ☐ acceptable; ☐ not acceptable (see explanation or Notice of Draftsman's Patent Drawing Review, PTO-948).

10. ☐ The proposed additional or substitute sheet(s) of drawings, filed on _____, has (have) been ☐ approved by the examiner; ☐ disapproved by the examiner (see explanation).

11. ☐ The proposed drawing correction, filed _____, has been ☐ approved; ☐ disapproved (see explanation).

12. ☐ Acknowledgement is made of the claim for priority under 35 U.S.C. 119. The certified copy has ☐ been received ☐ not been received ☐ been filed in parent application, serial no. _____; filed on _____.

13. ☐ Since this application appears to be in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11; 453 O.G. 213.

14. ☐ Other

EXAMINER'S ACTION

1. Claims 33-35 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The recitations of "image data production means includes a latch circuit" in claim 33, "image data processing means includes a ROM table" in claim 34; and "data signal supply means includes a flip-flop circuit and a counter" in claim 35 are unclear since the functions of the elements of a latch circuit, a ROM table, a flip-flop circuit and a counter and the connections of these elements in the electro-optical device are unknown.

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --
3. (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 21-32 and 36 are rejected under 35 U.S.C. § 102(b) as being anticipated by Wakai et al.

Wakai et al teach a driving method for an electro-optical device with a light modulating layer (107) comprising a plurality of pixels (106, 107); addressing means (102) for addressing the pixels (106, 107) with a scanning signal for a predetermined period (T); and supplying means (103) for applying a data signal to pixels (106, 107) during a scanning period. The data signal

consists a plurality of pluses and the number of the pluses are determined by a tone of an image to be displayed (see figures 1, 5, 7, 8, 9a, 9b and 10a-10c; column 1, lines 56-64; column 3, lines 37-49; column 4, lines 38-68, and column 5; lines 1-49).

As to claim 31, Wakai et al teach a method for a display device comprising image data production means (103) for producing image data; image data processing means (109, counter f, 110', 110, and 111) for processing image data and data signal supply means (112) for applying data signal to pixels during a scanning period (see figure 1, column 4, lines 50-68; and column 5, lines 1-16).

As to claims 22-25, 27-30, 32 and 36, Wakai et al teach a method for a display device comprising a light modulating layer (107) with a liquid crystal, a plurality of pixels (107, 106) which is located between a column electrode (105) and a row electrode (104); and data signal pulses are constant (see figures 1, 10a-10c; and column 4, lines 38-49).

5. The following is a quotation of 35 U.S.C. § 103 which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

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Subject matter developed by another person, which qualifies as prior art only under subsection (f) or (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.

6. Claims 33-35 are rejected under 35 U.S.C. § 103 as being unpatentable over Wakai et al in view of Kanayama.

Wakai et al fail to disclose a latch circuit, a ROM table, a flip-flop circuit and a counter. Kanayama teaches a method for a display device comprising a memory (11); a latch circuit (20); counters (PC1-PCN); and flip-flop circuits (FF₁-FF_N) (see figures 3, and 4; and column 6, lines 10-43). It would have been obvious to have modified Wakai et al with the teaching of Kanayama, since it is well known to apply a memory, a counter and logic circuits in a display device for processing image data.

7. Claim 37 is rejected under 35 U.S.C. § 103 as being

~~unpatentable over Wakai et al~~ ~~in view of Amano~~ as applied to claim 3 above, and further in view of ~~Amano~~.

Wakai et al fail to disclose a video signal receiving circuits. Amano teaches a video display system comprising a video signal receiving circuit (5) for receiving television signals (see figure 5, column 41-44). It would have been obvious to have modified Wakai et al with the teaching of Amano so as to provide television signals to a display.

8. The prior art made of record and not relied upon is

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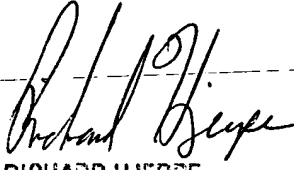
considered pertinent to applicant's disclosure.

Watanabe et al teach a video display system comprising a plurality of display cells arranged in an X-Y matrix form; and a pulse width modulator connected to a video signal source for deriving a PWM signal corresponding to the brightness level of the digital video signal. Clerc et al teach a matrix display device for obtaining a display of 2^n different levels.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lun-Yi Lao whose telephone number is (703) 305-4873.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-4700.

L. Lao:tlr *JL*
December 30, 1993


RICHARD HJERPE
PRIMARY EXAMINER
GROUP 2600